



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,596	07/23/2004	Mou-Shiung Lin	MEGP0027USA4	4595
27765	7590	06/13/2007	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION			MATTHEWS, COLLEEN ANN	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	
			2811	
			NOTIFICATION DATE	
			DELIVERY MODE	
			06/13/2007	
			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Office Action Summary

Application No.

10/710,596

Applicant(s)

LIN, MOU-SHIUNG

Examiner

Colleen A. Matthews

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 43, 48-55, 64, and 69-76 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 6,495,442 to Lin et al (Lin).

Re claim 43 and 64: Lin discloses a circuitry component comprising multiple MOS devices (not shown but described in col 4 lines 49-51), a semiconductor substrate (10), a metallization structure (14) over the semiconductor substrate, a passivation/silicon-nitride layer (18, col 5 lines 4-5) over the metallization structure, a circuit trace (26/22/21/36/28) over the passivation/silicon-nitride layer, and a resistor connected to the circuit trace (not shown but described in col 8 lines 15-19).

Re claims 48-53 and 69-74: Lin discloses a polymer layer (20) between the passivation/silicon-nitride layer (18) and the circuit trace (26/22/21/36/28) and on the circuit trace where the polymer layer comprises polyimide (PI) or benzocyclobutene (BCB), (col 5, lines 19 and 23-27).

Re claims 54-55 and 75-76: Lin discloses the circuit trace comprising a copper layer and a nickel layer over the copper layer (col 6 lines 55-58).

Art Unit: 2811

Re claims 85 and 86: Lin discloses the resistor (not shown but described in col 8 lines 15-19) in the semiconductor substrate (10) where the resistor is under the silicon-nitride layer (18).

Re claims 87 and 88: Lin discloses semiconductor substrate (10) where the resistor and multiple MOS devices not shown but described in col 8 lines 15-19) are in the semiconductor substrate and where the resistor is under the passivation layer (18).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 44-46 and 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,495,442 to Lin et al (Lin) in view of U.S. Pub. No. 2003/0155570 to Leidy.

Re claims 44-46 and 65-67, Lin discloses the device of 43 and 65 as above. Lin fails to disclose the resistor comprising silicon with a dopant of boron, phosphorous, or arsenic. Leidy teaches a resistor comprising silicon and a dopant of boron, phosphorous, or arsenic (page 5, claim 26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lin to have the resistor made of silicon and a dopant of boron, phosphorous, or arsenic as in Leidy in order to be able to predetermine the device resistivity (Leidy, page 3, paragraph 37).

Claims 45, 47, 66 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,495,442 to Lin et al (Lin) in view of U.S. Pub. No. 2003/0183332 to Simila.

Re claims 45, 47, 66 and 68: Lin discloses the device of 43 and 65 as above. Lin fails to disclose the resistor comprising silicon with a dopant of boron, phosphorous, or arsenic. Simila a resistor comprising silicon and a dopant of phosphorous or gallium (paragraph 70). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lin to have the resistor made of silicon and a dopant of phosphorous or gallium as in Simila in order to be able to predetermine the device resistivity.

Claims 54-63 and 75-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,495,442 to Lin et al (Lin) in view of U.S. Pat. No. 5,972,734 to Carichner et al. (Carichner).

Reg claims 54-63 and 75-84: Lin discloses the device of 43 and 65 as above where the circuit trace comprises a nickel layer over a copper layer. Lin fails to disclose the circuit trace comprising a gold layer over the copper layer, a titanium layer under the copper layer, a titanium-containing layer comprising tungsten a chromium layer under the copper layer or where the metallization structure comprises aluminum. Carichner teaches a circuit trace (212) comprises a nickel layer over a copper layer (col 4 lines 41-46). It would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 2811

invention was made to modify Lin to include the different circuit trace and metallization layers of Charichner in order to optimize the device performance under thermal stress.

Response to Arguments

Applicant's arguments filed 03/16/2007 have been fully considered but they are not persuasive. Applicant argues that Lin et al. fail to teach the circuit component may comprise a resistor (Remarks, page 11). The examiner disagrees. As noted in the remarks, the Lin et al. reference discloses the components such as "an inductor, a capacitor and the like," see Lin et al. col 8 lines 15-19. One of ordinary skill in the art would know that inductors, capacitors, and the like would include a device like a resistor; as resistors, inductors and capacitors are all commonly known passive devices.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2811

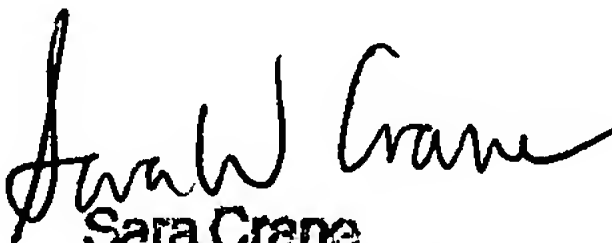
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen A. Matthews whose telephone number is 571-272-1667. The examiner can normally be reached on Monday - Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

06/04/2007
CAM


Sara Crane
Primary Examiner